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The Role of the Advanced Nurse Practitioner in Health  
Promotion and Disease Prevention of Obesity in Children

being

An Evidence Based Practice Project Presented to the Graduate Faculty  
of Mississippi University for Women  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Science in Nursing

by

Pamela Johnson

Mississippi University for Women

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## Graduate Committee Approval

The Graduate Committee of Pamela Johnson  
hereby approves her project as meeting partial  
fulfillment of the requirements for the Degree of  
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## **DEDICATION**

I wish to dedicate my research to my family. I would like to thank my daughter Lekesha, for her many hours of babysitting. To my parents for their words of encouragement and love. I would also like to thanks Mike my fiancée, for his understanding during the last twelve months.

I want to also dedicate my research to the instructors for their deep words of encouragement during this year. I most of all dedicate this work to Jesus Christ, for this me the patience and fortitude to accomplish this goal.

**EVIDENCE-BASED PRACTICE CONSIDERATIONS FOR THE ROLE OF THE  
ADVANCED NURSE PRACTITIONER IN DISEASE PREVENTION AND HEALTH  
PROMOTION OF OBESITY IN CHILDREN**

Pamela Johnson, MSN, RN

Mississippi University for Women, 2006

Supervising Professor: Dr. Brenda Smith

***Abstract***

Obesity is one of the most serious health problems facing the youth of the United States. Evidence suggests that the problem is getting worse rapidly. Obesity is now the most prevalent physiological and psychological disease of children and adolescents. Many people; i.e., governmental authorities and national leaders in the health care system perceived that obesity will impact health care in the United States, as well as in the world, now and in the future; specifically, increased cost, increased individual and community health infractions, problems, and quality of life. Many people think it is a cosmetic problem only, but in reality, it is linked to multiple health problems; such as, but not limited to, diabetes, hypertension, dyslipidemia, and psychosocial dilemmas. Advanced nurse practitioners are in the greatest position to help individuals and families, due to their extensive theoretical and practice background. For the advanced nurse practitioner, the process of dealing with the problem of obesity can be overwhelming to address thoroughly. Primary prevention has emerged as the best intervention, rather than dealing with secondary and tertiary repercussions. The purpose of this Evidence Based Practice (EBP) study was to impute in the Advanced Nurse Practitioner, the importance of primary prevention, and management, should this become necessary, regarding the monumental issue of childhood obesity.

## **ACKNOWLEDGEMENTS**

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## TABLE OF CONTENTS

COPYRIGHT PAGE.....	iii
DEDICATION PAGE.....	iv
ABSTRACT.....	v
ACKNOWLEDGEMENTS.....	vii
TABLE OF CONTENTS.....	xi
CHAPTER 1-Dimensions of the Problem	
Problem Statement.....	2
Statement of Purpose.....	3
Significance of the Study.....	4
Theoretical Foundation.....	4
Definition of Terms	
Family Nurse Practitioner	
Theoretical.....	7
Operational.....	7
Childhood Obesity	
Theoretical.....	7
Operational.....	7
Research Questions.....	8
Delimitations.....	8
Limitations.....	8
Summary.....	9

## CHAPTER II- Review of Literature

### An Overview of the Healthcare Literature Related to Primary Care Provider

Management of Childhood Obesity.....10

Summary.....12

## Chapter III- Design and Methodology

Approach.....13

Literature Selection Procedure.....13

Literature Analysis Procedure .....15

Summary.....15

## CHAPTER IV- Knowledgebase Findings and Practice-Based Application

Knowledgebase Findings.....16

Research Question One.....16

Research Question Two.....16

Research Question Three.....17

### Practice-Based Application

Research Question One.....18

Research Question Two.....18

Research Question Three.....19

Summary.....20

## CHAPTER V- Evidence-Based Conclusions, Implications, and Recommendations

Summary of the Investigation.....21

Interpretation of Findings with Conclusions.....	21
Research Question One.....	22
Research Question Two.....	22
Research Question Three.....	23
Limitations.....	23
Implications and Recommendations.....	23
Nursing Theory.....	23
Nursing Research.....	24
Advanced Nursing Practice.....	24
Nurse Practitioner Education.....	24
Health Policy.....	25
Summary.....	25
REFERENCE .....	26

## CHAPTER 1

### *Dimensions of the problem*

It has been hypothesized that a steady decline in physical activity among all age groups has heavily contributed to rising rates of obesity all around the world. According to a research study conducted by Heitman, Kaprio, Harris and Koskenvuo (1997), physical activity strongly influenced weight gain in a study of monozygotic twins . Numerous studies have shown that sedentary behaviors like watching television and playing computer games are associated with increased prevalence of obesity ( Swimbun, 2002). Furthermore, parents report that they prefer having their children watch television at home rather than play outside unattended because parents are then able to complete their chores while keeping an eye on their children (Tremalay, 2003). Increased proportions of children who are being driven to school and low participation rates in sports and physical education, particularly among adolescent girl, are also associated with increased obesity prevalence (Gordon-Larsen, 2004). Since both parental and children's choices fashion these behaviors, it is not surprising that overweight children tend to have overweight parents and are themselves more likely to grow into overweight adults than normal weight children (Tramlay, 2003). In response to the significant impact that the cultural environment of a child has on his/her daily choices, promoting a more active lifestyle has wide ranging health benefits and minimal risk, making it a promising public health recommendation.

Regular physical activity, fitness, and exercise are critically important for the health and well being of people of all ages. Research has demonstrated that virtually all individuals can benefit from regular physical activity, whether they participate in vigorous exercise or some type of moderate health-enhancing physical activity. Even among frail and very old adults, mobility

and functioning can be improved through physical activity. Therefore; physical fitness should be a priority for Americans of all ages. Regular physical activity has been shown to reduce the morbidity and mortality from many chronic diseases. Millions of Americans suffer from chronic illnesses that can be prevented or improved through regular physical activity.

The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity. Overweight in children and adolescents is generally caused by lack of physical activity, unhealthy eating patterns, or a combination of the two, with genetics and lifestyle both playing important roles in determining a child's weight. Our society has become very sedentary. Television, computer and video games contribute to children's inactive lifestyles. Physical inactivity is a major risk factor for heart disease. In fact, people who don't get enough physical activity are much more likely to develop heart disease as well as high blood pressure. Increasing your activity level, even to a moderate amount, will provide you with many benefits.

### **Problem Statement**

Childhood obesity and overweight are defined by the Centers for Disease Control and Prevention (CDC) as a body mass index (BMI) greater than or equal to the 95<sup>th</sup> percentile for children and adolescents of the same age and gender ( American Academy of Pediatrics , 2003). Children and adolescents of the same age and gender who have a BMI between the 85<sup>th</sup> and 95<sup>th</sup> percentiles are considered at risk for being overweight, CDC, 2003). The CDC does not include a cutoff between overweight and obesity for children in its definition. Accordingly, the terms obesity and overweight are used interchangeably (Larsen, et.al. 2006). Childhood obesity is a significant healthcare issue, and the prevalence of childhood obesity in the United States is rapidly increasing.

Considering the many health problems associated with childhood obesity, it is essential to examine risk factor linked to the condition. Some literature indicates that the rapid rise in childhood obesity is because of current environmental and social trends. For example, children are spending more time watching television, playing video games, and using the internet than children in the past (Berkley et al., 2000). Therefore, the following problem statement is generated for the scope of this investigation asks: What is the role of the nurse practitioner in managing childhood obesity.

### **Statement of Purpose**

The concept of obesity is a vital health issue. By analyzing the concept of obesity the nurse practitioner will have a better understanding on how to promote a healthy lifestyle. Obesity is one of the most common conditions seen in medical practice, and is one of the most difficult to treat. This condition is often perceived as a cosmetic problem, but it is associated with a number of chronic medical conditions including, but not limited to, heart disease, hypertension, and dyslipidemia. Youth obesity has increased at an alarming rate in the United States and in other developed countries around the world. Given the high prevalence of obesity among adults in the United States, it is not surprising that pediatric obesity is also on the rise. Since obesity starts in early childhood and extends into the adolescent years and possibly into adulthood, behavior modification is the key to preventing the onset of obesity in all population.

The lack of physical activity is a major underlying cause of obesity, death, disease, and disability. Preliminary data from a WHO study on risk factors suggest that inactivity, or sedentarism, is one of the 10 leading global causes of death and disability. More than two million deaths each year are attributable to physical inactivity. In countries around the world between

60% and 85% of adults are simply not active enough to benefit their health. Sedentary lifestyles increase all causes of mortality, double the risk of cardiovascular diseases, diabetes, and obesity, and substantially increase the risks of colon cancer, high blood pressure, osteoporosis, depression and anxiety.

With insufficient budgets to promote physical activity, governments often fail to educate the public about the risks of sedentarism. Government policies and programmes can have a great impact on people's ability to influence their own health. In order to promote physical activity, a community should prioritize and develop parks and open spaces, clean air and water, safe and attractive streets and a vibrant public life. This requires the commitment, action and cooperation of health sector as well as other sectors: transport, environment, urban planning and law enforcement.

### ***Significance of the Study***

The current level of healthcare knowledge regarding the role of the primary care provider in managing childhood obesity limited. A computer search utilizing CINAHL, MEDLINE, and COCHRANE, revealed only sixty articles on this subject. Terms utilized in the search included the following: disease prevention and childhood obesity, nurse practitioner and disease prevention, nurse practitioner and childhood obesity, nurse practitioner and Pender and childhood obesity and Pender.

### ***Theoretical Foundation***

Pender's Health Promotion Model (1987, 1996), provided the framework for this project. Concepts are importance of health, perceived benefits of health, definition of health, perceived

status of health, perceived benefits of health promotion, and perceived barriers to health promotion. These are modified by personal, situational and interpersonal characteristics such as age, gender, education, income, weight, family patterns of health care behaviors, and expectations of significant others.

Health behavior is the basis of health promotion. Behavior specific cognitions and affect are the categories which are significant for motivation of health behavior. Of all the cognitive-perceptual factors, perceived control of health, perceived self efficacy, and perceived health status are the strongest determinants of health promoting behaviors (Pender, 1990). These factors are subject to modification through nursing intervention.

Self efficacy is defined as one's confidence in the ability to successfully take action. By education and guidance of patient in behaviors modification the nurse practitioner can empower the individual to make informed decisions regarding behavior relating to lifestyles changes. Barriers to adoption of behaviors modification measures are an individual's feeling of being helpless to prevent illness induced by past experiences. Facilitating the individual's understanding and adoption of these measures includes the perception of the nurse as caring about rather than caring for the individual; thus, increasing patient's self efficacy leading to adherence to the interventions.

Focusing on methods for increasing self efficacy as a mediating variable for the desired behavioral outcome can minimize the effects of discouragement, feeling of incompetence, and desire to give up in the face of perceived adversity or challenge. In an effort to influence behavior, the nurse practitioner will assess beliefs about positive or negative outcomes which will result from participation behavior modification program and educate the participant



regarding lifestyle changes. Perceived control of health operates such that individuals who have an internal locus of control are more likely to demonstrate health promoting behaviors than those with an external locus of control who believe that their health is beyond their immediate control (Pender, 1990).

Perceived health status is related to personal beliefs and evaluation of health in general. Because people value various aspects of health differently, some may perceive themselves as healthy in the presence of health problems or chronic disease. Others may perceive themselves as being in poor health without the presence of disease or health problems. Persons who believe themselves to be healthy are more likely to engage in health promoting behaviors (Pender, 1990).

The modifying factor interpersonal influence is of significance in that individuals are influenced by environments where other people's behaviors, thoughts, advice, assistance and emotional support affect their own behaviors and health. Significant individuals include family members, professionals, and peers in their social environment. The nurse constitutes an important source of interpersonal influence that can influence commitment of the individual to engage in health promoting behavior such as fall prevention measures (Pender, 1990).

Self actualization is a dimension of the health promoting lifestyle described as a feeling of well being. Self actualization is seen as a response to actions or perceptions one can take to enhance one's health and well being (Pender, 1990).

### ***Definition of Terms***

For the purpose of this study, the following terms are defined. They are defined in theoretical and operational terms. These are key words used in obtaining the literature from the selected database.

#### ***Family Nurse Practitioner***

***Theoretical.*** Primary Care Nurse Practitioner (PNP) is an Advanced Practice Nurse who provides primary care related to health promotion and disease prevention in both urban and rural setting. PNPs conduct physical examinations, diagnose and treat common acute illnesses, provide immunizations, manage chronic conditions, and teach lifestyle modifications for healthy living (Larsen, et. al, 2006).

***Operational.*** Primary Care Nurse Practitioner is defined as a registered nurse with extensive preparation at the Master Degree level with advance academic and clinical experience and is prepared to diagnose and manage common and chronic illness found in individuals who present for health care treatment.

#### ***Childhood Obesity***

***Theoretical.*** Obesity is defined as an excessive accumulation of body fat. Obesity is also defined as an increased amount of adipose tissue which is displayed by the body weight in excess of body mass index more than the 95<sup>th</sup> percentile (Dietz, 1998).

***Operational.*** Obesity is defined as exceeding the bodily weight normal for one's age, height, and build (Merriam-Webster, 1995)

current dietary and physical activity guidelines and patient education materials.

### ***Research Question One***

The first research question asks, “What is the level of health care knowledge regarding managing childhood obesity?” The knowledge based is limited. The computer search of three databases supports this evident by only 150 articles being sited. According to Schumann’s, (2002), theory-based study, indexed in CINAHL, explore the variables of overweight, pediatric obesity, nutrition, and physical activity. Strength of the study explored the literature and discussed the role of the primary provider in assessing and managing overweight children before they become obese. No visual schematic of findings provided proved to be found as a weakness. Nevertheless it provides a foundation for developing research in this area. The lack of clarity in definition of terms and method of literature selection may obfuscate author’s intended meaning. Key findings in this study reported that early detection and family interventions are necessary for lifestyle modification, with an emphasis on improved nutrition and physical activity. They further recommend early identification and interventions with children who exceed guidelines to decrease prevalence of pediatric obesity.

### ***Research Question Two***

The second research question asked, “What is the role of the nurse practitioner in managing childhood obesity?” Once identified, the managing of the obese adolescent is often a challenge. According to the study by Allen, Touger-Decker, O’Sullivan-Maillet, and Holland (2003), barriers to enhancing obesity management include patient compliance, patient interest, time needed to do these services, reimbursement constraints and insufficient education materials.

Another research study found that children model their parents (Jonides, Buschbacher, and Barlow, 2002).

### ***Research Question Three***

The third research question asks, “What is the role of the nurse practitioner facilitates interventions that are cost effective and of high quality care when managing childhood obesity?” McInnis (2003), reports that despite the existence of several evidence-based consensus reports on the health risks of obesity and health benefits of weight loss, many patients do not receive advice from their health care providers to lose weight or how to do so effectively. The author further suggests that by following the evidence-based guidelines and practical recommendations on obesity management can help facilitate these efforts.

The limitations for this investigation is that information obtained cannot be generalized beyond the scope of the research reviewed. Another limitation was several major studies in the area of obesity in children were done outside the United States. There is also potential for bias due to the use of surveys and questionnaires.

### ***Implications and Recommendations***

The limitations and recommendations for identifying the role of the nurse practitioner and managing childhood obesity, provides a foundation for future development. Nursing care should be implemented for the management of childhood obesity in the areas of theory, research, advance practice, education, and health policy.

### ***Nursing Theory***

The theorist for this investigative project, Nola Pender’s Health Promotion Model, focuses on the individual. This model enhances health promoting behaviors approaches for that

will focus on families and group. (Pender, Murdaugh, and Parsons, 2002). The author also believes that parents serve as powerful role model of children health and health- promoting behaviors.

### ***Nursing Research***

In the literature reviewed, the agreement of the authors was that each study's weakness and opportunities open the opportunity for further research. It also gave implications for improvement on how services are rendered to client. While Barlow and Dietz (2002), study guides efforts to improve the ability of providers to address childhood obesity problems effectively in day to day practice. Research should be obtained from FNPs and PNP's living across the country.

### ***Advanced Nursing Practice***

Nurse practitioners working in pediatric practice setting are more likely to be aware of childhood obesity prevention guidelines than those working in family practice. Nurse practitioners need to be advocates in their communities to help overcome the barriers to childhood obesity prevention.

### ***Nurse Practitioner Education***

Nurse practitioner need to receive more education on risk factors for childhood obesity, such as ethnicity and low socioeconomic, because children from these groups are at risk. It is imperative for nurse practitioner who sees children on a regular basis should consider obtaining additional education on childhood obesity. Nurse practitioner should remains up to date on current research and treatment of childhood obesity.

### ***Health Policy***

The funding necessary to address the research issues identified above will not be forthcoming until childhood obesity moves higher on the public agenda. Childhood obesity represents a threat to the health of the US population that must be considered equal to that presented by AIDS, breast cancer, and teen pregnancy ( Isasi, Soroudi, and Wylie-Rosett, 2006).

According to Healthy People 2010, overweight and obesity are major contributors to many preventable causes of death. On average, higher body weights are associated with higher death rates. The number of overweight children, adolescents, and adults has risen over the past four decades. Total costs (medical cost and lost productivity) attributable to obesity alone amounted to an estimated \$99 billion in 1995.

Only when childhood obesity becomes high on the public agenda will the necessary policies from government and private agencies become available.

### ***Summary***

The purpose of this Evidence Base Practice (EBP) project was to develop the nurse practitioner knowledge base regarding managing childhood obesity. The research question asked: (a) what is the level of health care knowledge regarding managing childhood obesity? (b) what is the role of the nurse practitioner in managing childhood obesity? (c) what is the role of the nurse practitioner facilitates interventions that are cost effective and of high quality care when managing childhood obesity? A Boolean computer search of nursing and medical literature for theory-based and controlled trials for citation utilizing CINAHL, MEDLINE, and Cochrane Library was conducted for this systematic review.

The need for further attention to childhood obesity in advanced practice nursing literature is critical. Implications for nursing theory, nursing research, advanced nursing practice, nurse practitioner education, and health policy are provided as they emerge from the concepts explored.

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